

**Instructions**

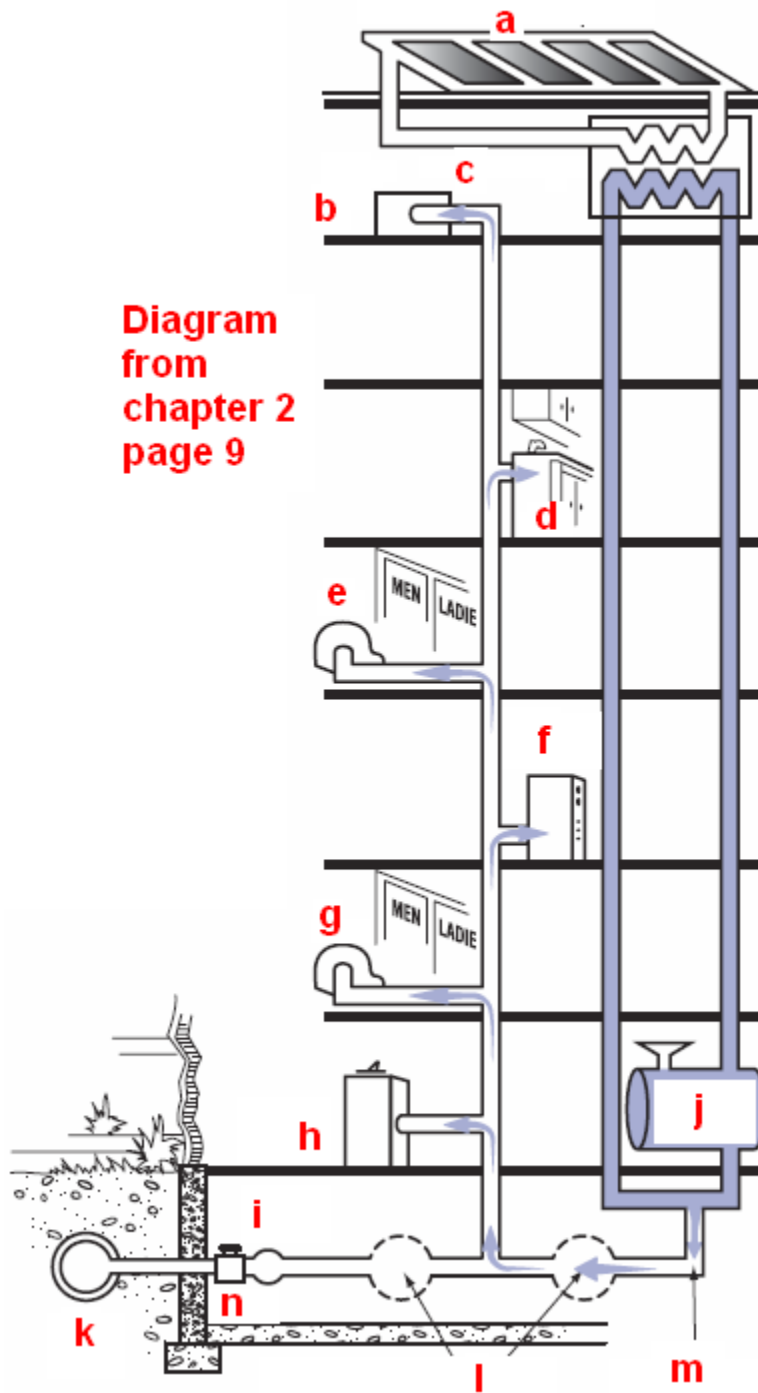
[Back to home page](#)

Fees:\$60

1. Print these pages.
2. Print the Cross Connection manual at (large files and could take time to download) <http://www.epa.gov/safewater/pdfs/crossconnection/crossconnection.pdf> or at [http://garyklinka.com/Manuals/crossconnection\\_24\\_manual.pdf](http://garyklinka.com/Manuals/crossconnection_24_manual.pdf)
3. Simply follow the manual from beginning to end to answer the questions.
4. Go to the bottom of this page for course verification forms and mailing instructions.

Course qualifies for the following Credentials: 6 hours of credit

1. Commercial Plumbing Inspector
2. Journeyman Plumber License
3. Journeyman Plumber-Restricted Appliance License
4. Master Plumber License
5. Master Plumber-Restricted Appliance License
6. UDC-Plumbing Inspector Certification



Use the above diagram for questions 78-91

78. The letter 'a' represents \_\_\_\_\_

79. The letter 'b' represents \_\_\_\_\_

80. The letter 'c' represents \_\_\_\_\_

81. The letter 'd' represents \_\_\_\_\_

82. The letter 'e' represents \_\_\_\_\_

83. The letter 'f' represents \_\_\_\_\_

84. The letter 'g' represents \_\_\_\_\_

85. The letter 'h' represents \_\_\_\_\_

86. The letter 'i' represents \_\_\_\_\_

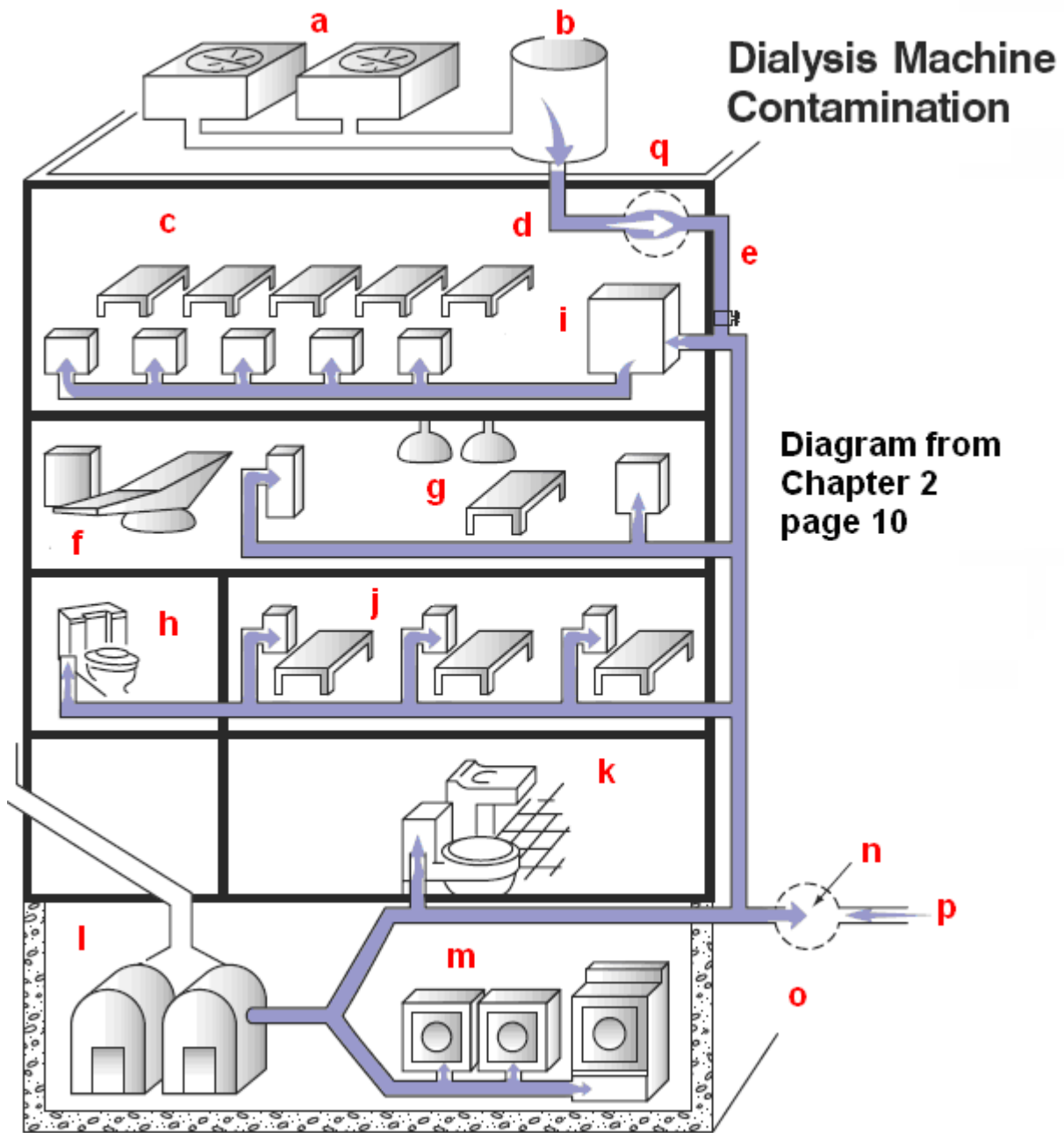
87. The letter 'j' represents \_\_\_\_\_

88. The letter 'k' represents \_\_\_\_\_

89. The letter 'l' represents \_\_\_\_\_

90. The letter 'm' represents \_\_\_\_\_

91. The letter 'n' represents \_\_\_\_\_



Use the above diagram for questions 92-107

92. The letter 'a' represents \_\_\_\_\_

93. The letter 'b' represents \_\_\_\_\_

94. The letter 'c' represents \_\_\_\_\_

95. The letter 'd' represents \_\_\_\_\_

96. The letter 'e' represents \_\_\_\_\_

97. The letter 'f' represents \_\_\_\_\_

98. The letter 'g' represents \_\_\_\_\_

99. The letter 'h' represents \_\_\_\_\_

100. The letter 'i' represents \_\_\_\_\_

101. The letter 'j' represents \_\_\_\_\_

102. The letter 'k' represents \_\_\_\_\_

103. The letter 'l' represents \_\_\_\_\_

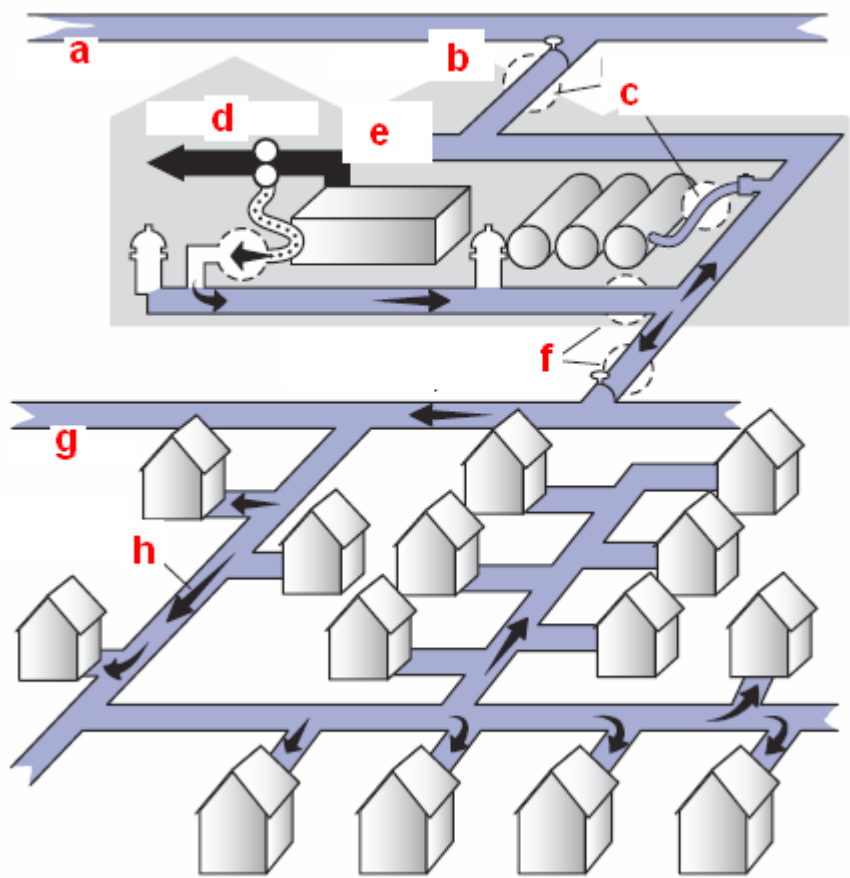
104. The letter 'm' represents \_\_\_\_\_

105. The letter 'n' represents \_\_\_\_\_

106. The letter 'o' represents \_\_\_\_\_

107. The letter 'p' represents \_\_\_\_\_

### Creosote in the Water Mains Diagram from chapter 2 page 11



Use the above diagram for questions 108-115

- 108. The letter 'a' represents \_\_\_\_\_
- 109. The letter 'b' represents \_\_\_\_\_
- 110. The letter 'c' represents \_\_\_\_\_
- 111. The letter 'd' represents \_\_\_\_\_
- 112. The letter 'e' represents \_\_\_\_\_
- 113. The letter 'f' represents \_\_\_\_\_
- 114. The letter 'g' represents \_\_\_\_\_
- 115. The letter 'h' represents \_\_\_\_\_

116. For an understanding of the nature of pressure and its relationship to water depth, consider the pressure exerted on the base of a cubic foot of water at sea level. (See Fig. 1) The average weight of a cubic foot of water is 62.4 pounds per square foot gage.

- a. true      b. false

117. Frequently water pressure is referred to using the terms “pressure head” or just “head,” and is expressed in units of feet of water. One foot of head would be equivalent to the pressure produced at the base of a column of water 1 foot in depth. One foot of head or 1 foot of water is equal to 0.433 psig. One hundred feet of head is equal to 43.3 psig.

- a. true      b. false

**Methods and Devices for the Prevention of Backflow and Back-Siphonage**

List the six basic types of devices that can be used to correct cross-connections:

118. \_\_\_\_\_

119. \_\_\_\_\_

120. \_\_\_\_\_

121. \_\_\_\_\_ t \_\_\_\_\_

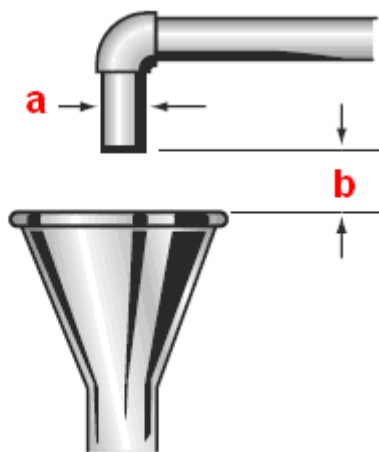
122. \_\_\_\_\_

123. \_\_\_\_\_

124. Air gaps are mechanical backflow preventers that are very effective devices to be used where either backsiphonage or backpressure conditions may exist.

- a. true      b. false

FIGURE 12.  
Air gap.



125. The letter ‘a’ represents \_\_\_\_\_

126. The letter ‘b’ represents \_\_\_\_\_

127. The barometric loop consists of a non-continuous section of supply piping that abruptly rises to a height of approximately 35 feet and then returns back down to below the originating level.

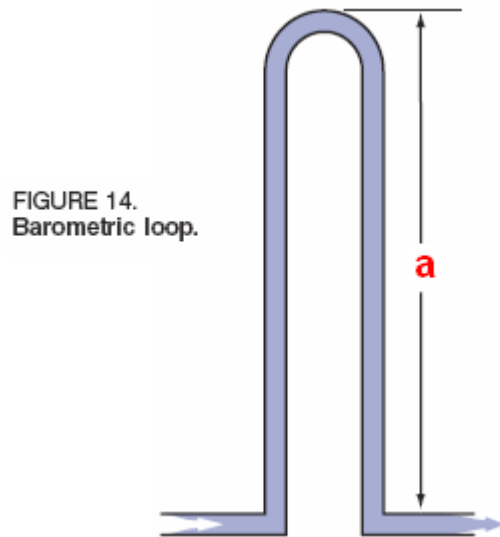
- a. true      b. false

128. The barometric loop is a loop in the piping system that effectively protects against backsiphonage and backpressure.

- a. true
- b. false

129. The barometric loops operation, in the protection against backsiphonage, is based upon the principle that a water column, at sea level pressure, will always rise above 33.9 feet.

- a. true
- b. false



130. The letter 'a' represents \_\_\_\_\_

131. The atmospheric vacuum breaker's construction consists usually of a polyethylene float which is free to travel on a shaft and seal in the uppermost position against atmosphere with an elastomeric disc.

- a. true
- b. false

132. In general the atmospheric vacuum breakers are available in 1/2-inch through 3-inch size.

- a. true
- b. false

133. The atmospheric vacuum breaker must be installed within 15 degrees of vertically.

- a. true
- b. false

134. The atmospheric vacuum breaker must not have shutoffs downstream, and must be installed at least 6-inches higher than the final outlet.

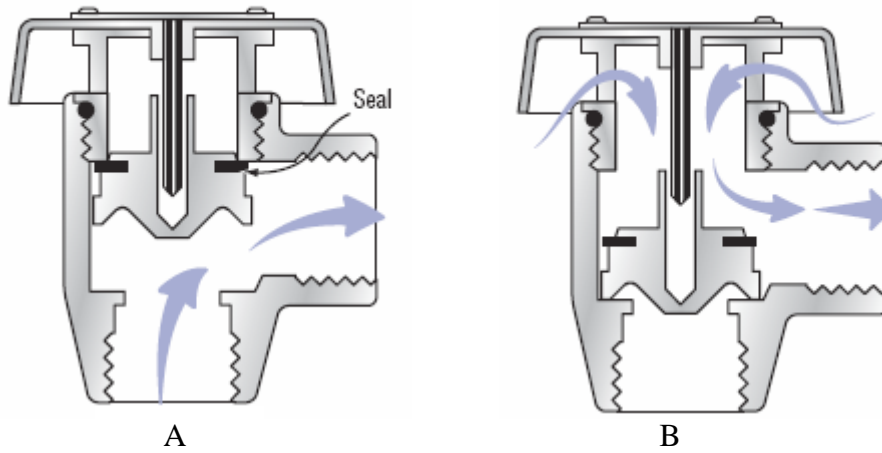
- a. true
- b. false

135. The atmospheric vacuum breaker cannot be tested once they are installed in the plumbing system, but are, for the most part, dependable, trouble-free devices for backsiphonage protection.

- a. true
- b. false



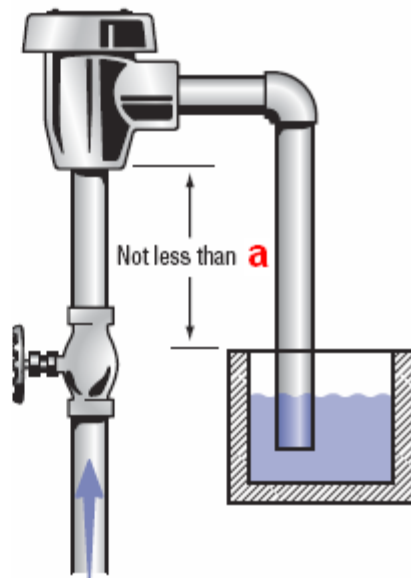
FIGURE 15.  
Atmospheric vacuum breaker.



136. Figure 'A' above is in the \_\_\_\_\_ position.  
a. open                      b. closed

137. Figure 'B' above is in the \_\_\_\_\_ position.  
a. open                      b. closed

FIGURE 16.  
Atmospheric vacuum breaker  
typical installation.



138. 130. The letter 'a' represents \_\_\_\_\_ inches.  
a. 4                      b. 8                      c. 6                      d. 12

139. Hose bibb vacuum breakers consist of a spring loaded check valve that seals against an atmospheric outlet when water supply pressure is turned on.  
a. true                      b. false

140. Hose bibb vacuum breakers can be used as backpressure devices.  
a. true                      b. false

141. Pressure vacuum breaker units are available in the general configurations as shown in Figure 20 in sizes 1/2-inch through 10-inch.

- a. true
- b. false

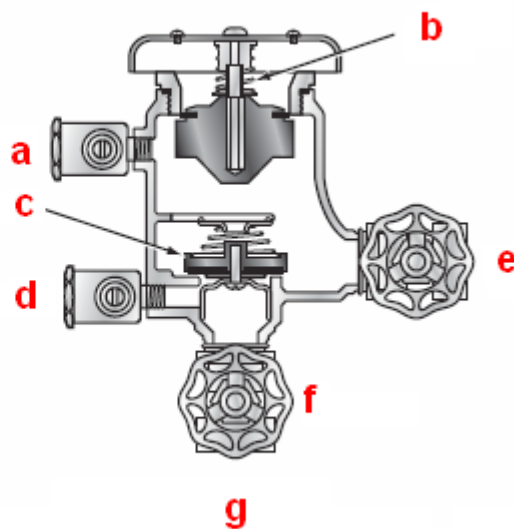
142. Pressure vacuum breaker devices may be used under constant pressure but do not protect against backpressure conditions.

- a. true
- b. false

143. Pressure vacuum breakers installation must be at least 6- to 12-inches higher than the existing outlet.

- a. true
- b. false

FIGURE 20.  
Pressure vacuum breaker



Use the above diagram for questions 144-150

144. The letter 'a' represents \_\_\_\_\_

145. The letter 'b' represents \_\_\_\_\_

146. The letter 'c' represents \_\_\_\_\_

147. The letter 'd' represents \_\_\_\_\_

148. The letter 'e' represents \_\_\_\_\_

149. The letter 'f' represents \_\_\_\_\_

150. The letter 'g' represents \_\_\_\_\_

151. The double check with intermediate atmospheric vent provides a compact device in 1/2-inch and 3/4-inch pipe sizes that protects against all hazards.

- a. true
- b. false

152. The double check with intermediate atmospheric vent is capable of being used under constant pressure.

- a. true            b. false
-

To obtain your Continuing Education Credits follow the below instructions.

1. Click on course, print out, circle answers, mail everything in with payment.
2. Fill in all fields applicable.
3. Include your certification or license number.
4. We'll take care of crediting with the state and mailing back to you the quiz results.

Send by mail

[www.garyklinka.com](http://www.garyklinka.com)

1. Test & answer sheets. Fees: \$60
2. Fill out this form below completely.
3. Applicable fees by check payable to Gary Klinka.
4. Mail to: Gary Klinka at 228 Mandella Ct Neenah WI 54956.
5. Questions: office 920-727-9200 or Fax 888-727-5704.
6. Cell 920-740-4119 or 920-740-6723 & by email [garyklinka@hotmail.com](mailto:garyklinka@hotmail.com)

-----Educational Course Attendance Verification Form -----

Attendee's Name \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_

Credential Number \_\_\_\_\_ Phone# \_\_\_\_\_

Course Title and Name \_\_\_\_\_ Crossconnection 24 part 2

List the name of each credential held by attendee \_\_\_\_\_

\_\_\_\_\_ Credited Hours 6 hours

Email address \_\_\_\_\_ Fax# \_\_\_\_\_

To be completed by Gary Klinka My credential link [#70172](#)

Course Password \_\_\_\_\_ Course ID# 8610

Attendee passed the course with a greater than 70% score on Date \_\_\_\_\_

Instructor Signature \_\_\_\_\_